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# Boundary crossing and learning identities – digital storytelling in primary schools

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## Abstract

*This article contributes to academic discussions on how digital storytelling in an educational setting may have potential to build and develop learning identities, agency and digital competences. With a socio-cultural framework on learning and identity as a point of departure, the article sets out to study these issues approached as boundary crossing between the intersecting contexts of leisure time and school. The analysis draws on three examples of digital storytelling among 5th - 7th graders in three Norwegian primary school classes. My findings suggest that digital storytelling might represent a boundary crossing enabling pupils to adopt new roles as producers of creative content, as mentors or guides, to explore new technology and software in a context different from that of outside school and to learn and develop competences related to production processes and multimodal resources. I argue that digital storytelling has a potential to contribute to learning, learning identity and agency, provided it is based on a more fully developed pedagogical strategy of carefully linking school and leisure time.*

**Keywords:** Digital storytelling, learning, identity, agency, digital competences, contexts.

## Introduction

Today, an increasing proportion of young people communicate, create and share narratives and self-presentations by using digital production software and social networking sites (Ito et al., 2008; Ofcom, 2009). Digital technology, and digital storytelling in particular, has become increasingly prevalent in school settings around the world. As a multimodal means of expression, digital storytelling is aimed at engaging pupils in activities familiar to them from outside school. Digital storytelling is assumed to develop identity, agency and digital competences[i] by providing new ways of learning and identity expressions (Nyboe & Drotner, 2008). The extent to which this is so has not been systematically addressed. It is also pertinent to discuss how digital storytelling, as a "new cultural tool" (Erstad & Wertsch, 2008, p. 36), challenges traditional assumptions of what knowledge formation implies in formal educational settings (Drotner, 2008).

This article[ii] compares and discusses three examples of digital storytelling among 5th - 7th graders in three Norwegian primary school classes. I describe

and analyse how the pupils relate to learning in school and leisure time. The centrepiece is *learning* and *learning identity* related to the notion of *agency*. I approach schoolchildren as learners across these contexts and as subjects in their learning according to how they respond to, and influence, the contextual arrangements (Dreier, 2008; Hedegaard & Fleer, 2009). I also approach learning identity and agency from a more epistemological and ontological perspective.

The analysis focuses on how the pupils' experiences of digital technologies outside school are similar to or different from their experiences of digital storytelling in school, according to how they use multimodal resources and how they relate to the production process. When pupils get opportunities to combine "cultural codes" from leisure time with the formal codes in school in a collaborative and explorative manner this may enhance identity formation and agency (Erstad & Silseth, 2008, p. 214). This leads on to the question of how their leisure time practices possibly supplement or contrast with their practices in school and how digital storytelling as educational practice can be a mediating resource and example of boundary crossing between school and leisure time as part of developing their digital competencies. It is important to study how schoolchildren conceive of the interconnection between school and leisure time activities, through qualitative and empirically based discussions (Erstad & Silseth, 2008). By comparing how teachers organise digital storytelling production (DSP) in the classroom, it is possible to learn more about the importance of contexts in enhancing competences, agency and learning identity. This is relevant since school remains our principal setting for joint and equal formal competence development. Against this background, the article is guided by these three research questions:

1. What are the possibilities and challenges of using digital storytelling in primary schools to develop learning identity and agency?
2. To what extent does digital storytelling represent a boundary crossing between in and out of school activities involving the use of digital technology?
3. What is the impact of teachers in framing pupils' activities with digital storytelling in classroom contexts?

The aim is to study these issues approached as boundary crossing (e.g. Walker & Nocon, 2007) between leisure time and school as two intersecting contexts. I argue that DSP has a potential to contribute to learning, learning identity and agency, but only if it is based on more fully developed pedagogical strategies carefully linking school and leisure time activities. An underlying premise is a socio-cultural framework on learning and identity (Wertsch, 1998).

After an introduction to the theoretical framework, the empirical context of the study, the data and methods are presented. The primary data were derived from interviews with pupils and teachers, and video observations of pupil interactions while making their digital stories. The analysis is structured around the three classrooms as examples. I discuss digital storytelling according to contexts, learning identity and agency, and conclude by pointing to some implications for future research on digital storytelling in schools.

## Digital storytelling as a new cultural tool – a socio-cultural approach

From being a way to engage people and communities in reflection on their own life condition through performance (Lambert, 2002), to being an important after-school alternative engaging young people in learning through the use of digital media (Hull & Greeno, 2006), digital storytelling is now implemented worldwide as a methodological approach in educational settings (Nilsson,

2008). The recent national curriculum (2006)[iii] has moved the concepts of digital competence and multimodal[iv] texts into centre stage. Studies of school reforms (e.g. Cuban, 2001; Kløvstad, Hatlevik, Ottestad, Skaug, & Berge, 2009) reveal both high hopes and difficulties in implementing and using new technologies in educational settings. One difficulty is that teachers and pupils have different ways of relating to technology in these two contexts (Sefton-Green, Nixon & Erstad, 2009). I do not claim that schools ought to adopt pupils' out-of-school practices uncritically. Central here is to study the relationship between school and leisure time as intersecting contexts rather than in terms of gaps and binaries (e.g. Hull & Greeno, 2006), in order to grasp how pupils experience the differences referred to (Erstad, forthcoming).

The interrelationship between school-based and leisure time learning is nothing new in educational research (e.g. Moje et al., 2004; Hull & Schultz, 2002), neither is the use of educational media in school (e.g. Buckingham, 2003; Haugsbakk, 2008; Nordkvelle, 2007). What is new is the emergence of user-friendly software such as MovieMaker[v] and PhotoStory[vi], providing opportunities for young people in particular to explore and elaborate different modes of identity expression and learning activities in new ways (Scott Nixon, 2009). In this article, DSP covers varied types of narrative production in schools. I will analyse how pupils position and re-position learning identity as they handle and manage different digital practices while crossing between and orienting themselves in different contexts (Erstad, Gilje, Sefton-Green & Vasbø, 2009). I will elaborate some key concepts of relevance to this approach.

I draw on the socio-cultural and the New Literacy Studies tradition of studying digital practices, learning and identity from an ethnographic point of view (e.g. Säljö, 2006; Wertsch, 1998; Scribner & Cole, 1981; Lankshear & Knobel, 2008). Accordingly, DSP is addressed as digital practices embedded and situated within broader social and cultural practices occurring within and across contexts. This implies a move beyond the traditional transfer-metaphor on knowledge between individual minds (e.g. Beach, 1999). DSP represents a new cultural tool generating new structures, conditions for, and conceptions of knowledge and learning (Erstad & Wertsch, 2008). I draw on the concept of context as developed by Cole (1996), as "that which weaves together" (p. 135). He argues that boundaries between tasks, tools, goals, and contexts must be seen as ambiguous and dynamic, not as clear-cut and static. This goes beyond a more traditional approach in educational research conceiving of "classroom-as-container" where teachers and researchers expect learning to "take place" (Leander, Phillips & Taylor, 2010, p. 329).

The concept of boundary crossing is sometimes used as an alternative to transfer, to indicate the transition from one context to another in the way people relate to available resources in different learning environments (e.g. Engeström, 2001; Tanggaard, 2007). Walker & Nocon (2007) argue that learning environments can support learning across boundaries by connecting related practices and providing opportunities for pupils (or novices) to connect to 'expert networks', for instance teachers and adults. Competence developed in situated practices can contribute to competence in related practices through identity work that "weaves together both achieved and potential forms of competent engagement with repertoires from different socio-cultural contexts" (Walker & Nocon, 2007, p. 178).

The concept of identity is emerging as central in studies of the relationship between in- and out-of-school learning and is approached in a number of ways (e.g. Lemke, 2008; Hull & Greeno, 2006). Of specific relevance here, is an ontological approach to identity and learning. We have recently been witnessing a focal switch from technology implementation towards technology as provider of more pupil-centred learning activities and linked to ontological and epistemological approaches to learning (Erstad & Silseth, 2008). Wortham

(2004, 2006) argues that learning is an experience of identity because it transforms who we are and what we can do. Social identification and academic learning can overlap and partly constitute each other because curricula concepts play a central role both in social identification and in learning the curriculum (Wortham, 2004). Learning changes not only what we learn but also who we are and become in certain contexts. When learning to produce digital content, pupils become participants in new social activities as producers and mentors for fellow pupils. By adopting new practices, we may also change positions in the communities we participate in (e.g. Wenger, 1998). Learning is approached as the capacity to adapt to changing roles within different contexts (Hull & Schultz, 2002). DSP may alter traditional relationships between teacher and learner and generate experiences linked to learning behaviours (Sefton-Green et al., 2009).

The concept of epistemic agency has been used in relation to learning situations where the participants, rather than the teacher, govern the learning. Learning is approached as something to be explored in dialogical activities, not as something given, according to Erstad and Silseth (2008; see also Scardamalia, 2002). They see DSP as an example of how questions of epistemic agency clearly relate to the extent to which pupils are given the opportunity to integrate and build on their own cultural background and identity. For the purposes of this article, epistemic agency is understood as "an ability to create new knowledge and craft identity" (Erstad & Silseth, 2008, p. 219). Agency is seen as, "properly attaching to groups functioning on the intermental plane", not to individuals alone, and as involving mediational means (Wertsch, Tulviste & Hagstrom, 1993, p. 341). Mediation is the term used to describe the links between contexts, and comes into being when digital technology is used as part of socially situated practices (Drotner, 2008b).

Questions of identity and agency touch upon multimodality as a central issue in DSP (Erstad & Silseth 2008). DSP offers new ways of combining multimodal expressions subsuming the written, the visual, and the oral, the graphic and sound into one entity, and by drawing on a variety of sources. This may demand and develop competences linked to choices of such modes according to the desired affordances, or possibilities to communicate what you want to communicate (Kress, 2003). The concept of digital competence can be defined as socially developed and patterned ways of using technology and knowledge to accomplish tasks within a given context (e.g. Scribner & Cole, 1980).

A central point in this article is that digital practices taking place outside school, and the processes of learning involved differ from most digital practices within school in relation to scope, objectives, control and what is recognised as proper knowledge (Drotner, 2008). Digital practices in leisure time are based on personal interests, experiences and a desire to find out things. In most schools, we find a more traditional approach focusing on conceptual knowledge, abstract thinking and knowledge as product rather than process (Drotner, 2008). I assume that participation in certain digital practices in certain contexts provides possibilities to develop certain aspects of digital competences involved in these practices. As involved in broader cultural activities in everyday life, digital competences must be recognised as complex and compound (Lankshear & Knobel, 2008). Leisure time based and alternative forms of knowledge are defined as key future competences enabling young people to handle increasing cultural, economic and social complexity (Drotner, 2008; Rychen & Salganik, 2005). Nyboe and Drotner (2008) discuss three basic categories of competences as involved in DSP: technical, social, and cultural competences. This is a promising starting point for examining digital competences. However, it must be supplemented by an ontological and epistemological perspective on learning identity and agency if we are to understand how learning can be facilitated.

## The study – context, empirical basis and methods

The article is based on empirical data gathered during a period of video observation of DSP in three classes in three Norwegian primary schools[vii], 5th – 7th graders aged 9-13. The A class consisted of 18 girls and 16 boys, and pupils both from 6th and 7th grade participated in the DSP. The B class consisted of 16 girls and 30 boys, all 6th graders. The C[viii] class consisted of 14 girls and 8 boys, all 5th graders. The three schools can be characterised as representative of Norwegian primary schools in terms of size, technical facilities, number of pupils and teachers and socio-economic status. However, they cannot be considered as representative in a general way since they were strategically chosen because of their participation in the national project "The Learning Network"[ix]. This project turned the spotlight on the new national curriculum and on pupils' digital competence (Ottestad, Skaug, & Synnevåg, forthcoming). The three classes were chosen because of their DSP at the time of data collection. We can assume that the three schools involved in the study are more clearly focused on the intentions in the new curriculum than other schools. All three classes had some experience with DSP prior to this particular study, except for the 5th graders in the C class.

This study draws on two kinds of qualitative data: video observations and semi-structured interviews individually and in groups. In a period of one and a half months during spring 2008 I conducted video observations of DSP in the A class for four days, the B class for eight days and the C class for four days. Each observation lasted from three to six hours a day. The total number of video episodes, or instances capturing different phases in the production, was 319, each lasting from 15 seconds up to 4 minutes. To supplement the observations I interviewed four pupils in each class, two girls, and two boys. In each class, 3 - 4 pupils were also interviewed in groups, each interview lasting for 30 minutes. The pupils were questioned about the DSP, the use of digital technology at their school in general and about their digital practices in leisure time. The three teachers were also interviewed to contextualise the pupils' answers. All the interviews, except for one telephone interview with the teacher in the C class, were audio-recorded and took place at school prior to, or after the DSP. The teachers helped in selecting pupils for interview, in which participation was voluntary. Prior to visiting the schools, I tested the interview guide on a 5th grader.

The unit of analysis is mediated action, or "agent-acting-with-mediational-means" (Wertsch, 1998, p. 24). This highlights the relationship between actors, contexts, and technology. The unit of analysis required adoption of an ethnographic approach (Skaar, 2009). All interviews were transcribed and coded according to thematic analysis (Bernard & Ryan, 2010). The videos were also transcribed and analysed thematically, with the aim of illuminating themes in the interviews and with emphasis on what was talked about in front of the screen, for instance negotiating design. Story content and form were not analysed. Comparing the schools was not initially planned. As they were shown to approach DSP differently, however, it became relevant in the study of DSP as boundary crossing to contrast them as three "cases". This study was conducted according to the ethical code of the Norwegian Social Science Data Service.

## Digital storytelling production in the classrooms

This section presents and analyses the DSP in each of the three classrooms according to how the pupils handled (video) and interpreted (interviews) the production process and the multimodal resources. This is related to statements on how their digital practices outside school are similar to, or different from, their experiences of DSP at school. The overarching aim is to explore positioning and repositioning of learning identities and agencies

involved in the DSP in the three classrooms.

### Digital storytelling in the A class: Focusing on pupil participation

The first case, the 6th and 7th graders in the A class, reveals how DSP can enhance learning identity and agency by offering a high degree of pupil participation. The DSP assignment was to find and present facts relating to the topic "Travelling outside Europe". According to the teacher, the pupils were introduced to computers and diverse software from day one at this school, and they seemed to be quite familiar with the technology involved. Within the limits of the assignment, the pupils could choose with whom to work and which multimodal resources to use. They could also choose which theme to work on: for example ICT, food/cooking, travel agents and dance/music. All groups had to find information on the Internet, for instance about particular dances, food traditions etc.

The pupils worked both individually and in groups of two or four. They could choose where to work: the classroom, media-lab or the gym. The DSP covered seven subjects in the curriculum: information and communication technology, social subjects, arts, food and health, music and mathematics. The final presentations in the gym, with the entire school and families present, took very varied forms. Some groups presented their stories in a "digital" manner, some in an "analogue" manner, and others used a mix of both (figure 1): travelogues with MovieMaker or PowerPoint illustrations supplemented by oral presentations or role-play, dance performances, and wallpapers (pictures and texts) combined with exhibitions of food, clothes and souvenirs:

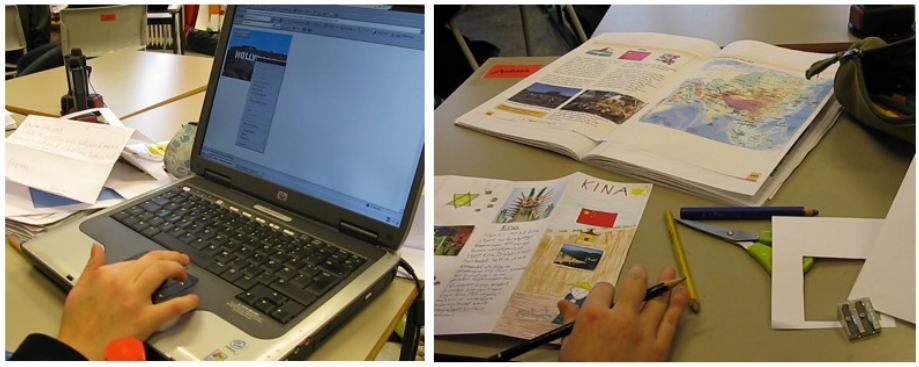


*Figure 1: Digital stories in a digital and analogue manner.*

A group interview[x] with four girls illustrates a high degree of pupil participation in making the DSP. It seemed important to them to be able to work in the same group, something they were not used to:

> We decided almost everything ourselves [...]. It was cool because we were allowed to choose whom to work with. Because it isn't always fun to work with um ... everybody, with people we don't like to be with. Yes, we worked a lot at each other's places, in a way.

They explained, with some giggling, that the teacher usually wanted them to mix with other pupils both during breaks and in lessons ("That's stupid"). They were clearly concerned with the notion of popularity at school, thus positioning themselves as "successful" learners. The girls told stories about what happened when they were working together on this project at home. In the excerpt below, they elaborated on the content of their story – three girls on vacation – and what happened during the film recording:

> […] and then we started laughing. It was really stuff and nonsense (laughter). The first cut was a load of rubbish. Yes! With the spa and all, we just um … we were talking all the time (laughter), and we were shopping.

The example highlights some of the differences between working in and outside school. At home they could act silly, try things out and laugh. At school they talked about the curriculum work they were expected to do, being disciplined and goal directed. They clearly thought it was rather unfair that they were not allowed to laugh when working as a group at school. The difference between home and school also became obvious when they explained, in twisted voices, that they sometimes were allowed to play computer-games "a little" on Fridays after finishing their work. It can be suggested that the twisted voices emphasizing "a little" express a notion of awareness and acceptance of the differences between technology-use inside and outside of school. The girls also experienced how technology is not always compatible across boundaries. Because of a missing cable, their movie couldn't be played at school. They had to remake their story using live role-play and PowerPoint. I suggest that DSP represents a boundary crossing in terms of opportunities to bring competences from outside school related to methods of working, being together, being flexible and solving problems. The girls had to adapt to institutional rules in some aspects ("We couldn't stop laughing"). They seemed to accept the constraints and managed to finish their story in time for the presentation. Notions of personal engagement and agency are perhaps reflected in the way these girls thought it was fun learning how to create flyers and produce movies in MovieMaker. When asked if they could think of working with a similar project in their leisure time they all agreed. This is important and might suggest that their project engaged them on a personal level, promoting agency by exploiting experiences and ideas from the way they engaged in digital technology outside school.

Numerous examples from my material document how the pupils, both inside and outside the classroom, argued and negotiated personal taste and identity linked to choice of multimodal resources. In this way, it is possible for them to develop abilities or competences related to teamwork: give and take criticism, rethink ideas, give and receive moral support (Nyboe & Drotner, 2008). These ways of working reflect back on formal schooling, especially how teachers and pupils conceive of what is valid knowledge and where to search for it (Drotner, 2008). This also applies to the ability to choose multimodal resources.

A majority of the pupils interviewed in the A class created a variety of digital content in their leisure time — PowerPoint of Lego, space creatures, still pictures and videos of friends and pets, music, birthday cards for granny, front covers for their schoolbooks —and they blogged about their hobbies. Outside school, they use a range of multimodal expressions, while at school they rely on more traditional forms of textual and oral expressions (e.g. Arnseth, Hatlevik, Kløvstad, Kristiansen & Ottesen, 2007).

My material shows that choice of multimodal resources might provide alternative opportunities for agency and identity expression reflecting hobbies and interests important outside school (e.g. Scott Nixon, 2009). The four girls created a role-play, supplemented by PowerPoint, about a trip abroad including spa treatment and shopping. It might also be suggested that choice of multimodal expression, when approved by the teacher, can provide opportunities for pupils to position themselves as "good learners" at school. However, my material reveals that choice of multimodal resources in school also reflects important differences between school and leisure time practices in terms of objectives. The four girls were in the habit of using PowerPoint and MovieMaker at home, "when we have nothing else to do." This might support a notion of school-based digital practices as implying goal-directed learning as

opposed to leisure time digital practices displaying inconclusiveness and a sense of making things up as you go along (e.g. Drotner, 2008).

Teacher A emphasised pupil participation and the need to link content, multimodal resources and methods to life outside school as an established strategy. Teacher A was responsible for ICT at this school and engaged in the DSP with what seemed to be a combination of instructions and guidance. Teacher A characterised the teacher role as being ever-present most of the time and as "the person pulling the strings to keep the DSP moving along". Teacher A gave a number of reasons for this involvement: insufficient infrastructure, lack of time and of relevant technical skills among other members of staff.

### Digital storytelling in the B class: Focusing on finding facts

The second case, the 6th graders in the B class, shows how the DSP could help to develop learning identity by inviting the pupils to reflect about ways of defining knowledge. Their project focused on information searches on the Internet, a practice a majority of the pupils in all classes were engaged in outside school.

The assignment was to find and present facts about the Nordic countries (Figure 2). The pupils were required to write a manuscript, save it on the Learning Management System, download still pictures and texts and use PhotoStory to combine textual information with still pictures. Using PowerPoint, microphones and headsets, they were then to present their stories to the rest of the class. Each production was to contain the following elements: name of country, flags, capital, government, population, famous citizens, landmarks and famous food dishes. The pupils had decided themselves to work with the geography curriculum. The DSP was carried out in the classroom, which was a noisy experience owing to lack of space and the layout of the computers lined up along the walls. The pupils had access to a computer each while working in groups of two or three. They had been given a brief introduction to PhotoStory and were familiar with computers, search engines, and the learning management system at school.

*Figure 2:* Digital stories about the Nordic countries.

The pupils could decide what kind of multimodal resources to download from the Internet, although their choice had to be relevant to the assignment. They could choose whether to use Internet or books. Their engagement in the production seemed to initiate reflections around affordances provided by different technologies, as revealed in a number of interviews from all three classes. A number of pupils described books as boring and out of date while the Internet was conceived of as flexible, easier and more fun to use. In the

group interview Signe and Eli reflected on affordances provided by the Internet and computers: “You imagine what you were writing in your head. Yes! And then it sort of pops up, new things and stuff.” Their reflections contrast with traditional approaches to knowledge as transmitted into pupils' heads from the teacher or from books. As a girl in another class explained: “We learn other things than the teacher tells us”. It is relevant to suggest that using search engines is a practice intersecting between school and leisure time (e.g. Arnseth et al., 2007). Surfing the Internet seemed to be a popular leisure-time “messing around” practice (Ito et al., 2008, p. 20) among a majority of the pupils in all three classes. Their searches related to hobbies as well as information to use in homework. However, it is questionable whether the curriculum in itself enhanced personal engagement, agency and learner identity in the same way as the digital practice of searching seemed to do.

This DSP appeared to be based on a lesser degree of pupil participation as regards choice of multimodal resources, tools and methods. The approach seemed to rest on developing technical skills and “mastering the Office package,” according to the teacher. Teacher B explained a dilemma concerning the balancing of pupils' competences, their freedom of choice, and the number of points to be included in the stories. This latter aspect was characterised by teacher B as “a straitjacket” tending to constrain engagement. Teacher B demonstrated full control over the technology and was in charge of ICT implementation at the school. Teacher B engaged in the production process with what seemed to be a combination of instructions and guidance. Most of the time teacher B remained in a rather withdrawn position behind the desk occupied by the pupils working at the computer. Teacher B emphasised the importance of getting the pupils to work according to the given timeframes. When reflecting on the teacher role in this project, teacher B explained, “to organise and nag the pupils to include all the points in the assignment“.

### Digital storytelling in the C class: Focusing on aesthetic production

The last case from the 5th graders in class C emphasises how the assignment can both provide and limit learning identity and agency. The DSP evolved around front doors (figure 3) expressed in still pictures and poems, which was the teacher’s idea. The assignment was to choose a still picture, put it on paper, devise a title, write a poem to the front door, build the presentation using PhotoStory and Paint[xi], decide how the pictures would appear/be presented, then add text and music. In groups of three, the pupils shared one computer located in the media-lab. The pupils read their own poems into the story with the help of microphones and headsets. The DSP covered three subjects: Norwegian, art and music. For different reasons they did not manage to present their products when the project period ended.

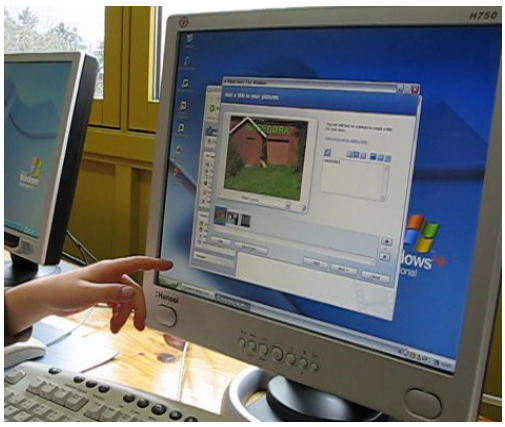

*Figure 3: Digital stories about front doors.*

This project introduced these pupils and the teacher to PhotoStory and creative production at school for the first time. Teacher C started each lesson by giving a brief introduction on how to use the technologies involved, encouraging the pupils to play with the software with the purpose of getting used to it. Teacher C approached the production process with what seemed to be a combination of instructions, demonstrations, questions encouraging their curiosity (what do you think will happen if..?), and trial and error together with the pupils. Teacher C monitored each group production closely.

The following example from the video-observation shows how DSP in school can mediate potential links and differences between leisure time and school and thus be important for learning identity and agency. When negotiating how to colour their story, two boys discussed their use of Google in leisure time:

> Erling: At home, you know Ola, I look up stuff about dinosaurs on Google. Do you do that?
>
> Ola: Yes, sometimes.
>
> Erling: I watch videos so's to find out how to do things um … and I look for pictures too.

The boys positioned themselves as learners, drawing on their leisure time experiences and interests in technology. Erling spent a lot of time at home creating PowerPoint presentations about dinosaurs. In the class, he was one of the most technically skilled. He helped in scaffolding other pupils and supported them when the teacher was guiding others in the class. In this way, Erling took the role as mentor and introduced several repertoire elements from his digital practice from outside school. It can be argued that his contributions influenced individual and collective development within the class and this meant that Erling affirmed and increased his values identity within the class (e.g. Walker & Nocon, 2007).

I suggest that projects like this enhance agency and learning identity among pupils with keen interest in technology and good technology skills. To pupils of lesser technical ability, DSP might reinforce lack of learning identity and agency, as with Anders. He did not seem particularly interested in either the technology or the assignment. Anders presented himself as neither particularly interested in computers nor skilled. He had a strong interest in rock music and he spent time searching for song lyrics on the Internet. The subsequent video clips could possibly have given Anders a chance to demonstrate his initiative in drawing on these sources. However, there seemed to be growing tension between the pupils' and the teacher's preferences in relation to content, form and production processes. Anders and his group wanted to create what Anders termed as a "big black city crowded with people carrying guns." As Simon handled the keyboard, Anders started to swing his chair and hummed a self-made rock song: "I am driving fast with the wind in my hair, life is good." Simon immediately picked up his song and wrote it out as a poem. The teacher turned up, clearly wanting them to express themselves in a more collected and scholarly manner:

> Teacher C: But, have you started to write a long poem instead?
> Anders (pointing at Simon): No, it's just um … he's creating something out of the blue.
>
> Simon: Yes, Anders is helping me a little.

> Teacher C: So you're creating the poem right now? That wasn't what the language teacher wanted you to do. You were supposed to use the poem you wrote in the language lesson. I liked that one.
> Simon: But I don't.

The group went on to finish their poem, read it aloud with a laugh while teacher C sighed and went away. DSP seemed to provide these pupils with an opportunity to mediate between school and leisure time context by engaging them in a dialogue on matters of importance to them and their identity formation. However, their choice of multimodal resources and their related competences clearly met with the teacher's disapproval. The DSP did not seem to help Anders to position himself as a "successful" learner at school. The teacher's choice of theme appeared to limit possible agency. Almost all the pupils, including those from the other classes, confirmed that they would have created something different in leisure time digital practices. This is important and might indicate that this type of production, largely teacher-organised, faces difficulties in trying to link to the pupils' everyday life outside school because of differences in scope and objectives (Skaar, 2008). DSP also seemed to mediate tensions between media culture and norms, principles and ideology in schools. A number of pupils engaged in discussions related to leisure time use of YouTube while composing their stories. In all three schools, the use of YouTube was forbidden.

## Discussion and conclusion: Reading learning identity across three classrooms and across boundaries between leisure time and school

The examples given are all located in a primary school context and examine how learning, learning identity and agency criss-cross borders between school and leisure time. The first research question concerned the possibilities and challenges of using DSP in primary schools to develop learning identity and agency. What is evident from my material is that DSP makes explicit the relationship between school and leisure time as different learning contexts influencing the learning process (Erstad & Silseth, 2008). DSP reveals tensions between institutional regulations, norms and rules, and the experiences, competences and expectations that pupils bring into the classroom from their use of digital technologies. According to Erstad and Silseth (2008), these tensions can be linked to a number of dimensions: collective learning, teacher-student roles, epistemic orientation in school based learning, and multimodality.

My material indicates that DSP can enhance learning identity and agency by providing opportunities for engagement in collaborative and explorative production practices familiar to a number of the pupils from leisure time. Another important point is the way the pupils, by becoming mentors and knowledge producers, may be able to challenge the traditional relationship between teacher and pupil with the teacher as deliverer of knowledge to passively reproducing pupils (Erstad & Silseth, 2008). From my research, it is evident that DSP is an interesting way to engage pupils in personal ways, since it allows them to choose multimodal resources relevant and familiar to them from digital practices outside school. DSP may thereby enhance learning identity and agency, two concepts important for learning and the development of digital competences. From my point of view, it is vital that pupils can have an impact on their own learning activities in educational settings (Erstad & Silseth, 2008; Drotner, 2001). From this perspective, the study has revealed both possibilities and challenges in the present educational system. In the following, I will discuss this matter in relation to the two remaining research questions.

My material reveals that DSP may represent boundary crossing between in and out of school activities involving the use of digital technology. The pupils brought digital practices and competences from leisure time into the classroom. When taking on the role of guide for their classmates, some pupils obviously draw on out-of-school competences related to technical skills and genre conventions. For others, DSP represented an introduction to new ways of learning that could be further explored in leisure time digital practices. However, for pupils like Anders and his group, DSP seems to represent boundary crossing only to a limited extent. DSP also stimulated discussions and reflections tied to out-of-school use of e.g. YouTube, Google, books, and ways of obtaining information. I found evidence of "transformations of new forms of related activity" (Walker & Nocon, 2007, p. 192). In the school context, information searches and content production crossed boundaries and were then seen to be supporting similar activities but with different objectives and scopes. This may enable pupils to enhance their understanding of how familiar technology can be helpful in developing other kinds of competences related to the curriculum. This brings us to the last research question concerning the impact of teachers in framing pupils' DSP activities in classroom contexts.

Although pupil participation was largely evident in the children's use of multimodal resources and ways of working, the study illustrates how DSP in an educational setting is an example of production modelled and predetermined by the teacher (Weber & Mitchell, 2008). It is reasonable to suggest that the teachers' approaches in many ways restricted rather than enhanced agency and learning identity. This was obvious in Anders' group, together with the finding that most of the pupils preferred to produce digital stories with a content that was more exciting or more tied to personal interests than the teacher-given assignment allowed. However, the material also illustrates how DSP is capable of enhancing and supporting learner identity. As suggested in research on the use of technology in schools (e.g. Erstad, 2005; Arnseth et al., 2007), our three schools also seem to be faced with challenges in realising the full potential of new technology for changing educational practice (Erstad & Silseth, 2008).

This study has illuminated some important prerequisites such as pupil participation and an assignment clearly linked to digital practices outside school, as in the A class. In the B class, the use of search engines seemed to reflect more of a technical orientation, thus linking the activity to leisure time. Discussions and reflections on e.g. Google as an information site seemed not to evolve in any of the three classes. An unclear curriculum in which these aspects are insufficiently brought out may be the explanation. Schools may also have good reasons for restricting access to social networking sites. However, popular leisure time technology, such as social networking sites, might have pedagogical benefits if examples drawn from everyday practices among the pupils were seen as broader cultural practices (Lankshear & Knobel, 2008). There may be potential through DSP for creating a "third space" expanding learning as the worlds of teachers and pupils meet and interact to create new knowledge and meaning (e.g. Moje et al., 2004). If the teacher had listened more carefully, for instance to pupils like Anders in the C class, she/he might have communicated to everyone in the class that their leisure time digital practices were relevant as a bridge into the classroom. In this way, the teacher might have developed the pupils' understanding of their own learning identity, which is, ". . . crucial to their literacy performance" (Erstad et al., 2009, p. 105).

One conclusion to be drawn from this study is that teachers need to adopt an ontological and epistemological perspective on learning identity in the interest of developing learning and digital competences based on what pupils already know from their engagement with technologies outside school. Teachers must

also recognise that there is a lot young people need to know about technology (Buckingham, 2003). From the examples presented here, it is obvious that young people are unable to develop the skills of critical reflection, co-operation, agency and learning identity on their own (Drotner, 2008). We need further investigation of the relationship between DSP in school and leisure time, especially in relation to pupils' sense of self and agency and how to develop digital competences carefully linked to leisure time. We also need further studies of how pupils frame leisure time and school as intersecting learning contexts, if we are to gain further understanding of the challenges attached to the educational use of digital technology.

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[i] I prefer to use the concept digital competence instead of literacy, which is the common term in international literature. The reason is that the competence-concept is in use in the Norwegian curricula.

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[iii] The Knowledge Promotion: http://www.regjeringen.no/en/dep/kd/Selected-topics/compulsory-education/Knowledge-Promotion/what-is-the-knowledge-promotion.html?id=86769

[iv] Multimodal texts are here used to refer to the Norwegian concept of "composite texts" (in Norwegian sammensatte tekster) which is the term in the national curricula.

[v] http://www.microsoft.com/windowsxp/downloads/updates/moviemaker2.msp

[vi] http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.mspx

[vii] The A class belonged to a school located in a small town and has 110 pupils in in 1th -7th grade and 11 teachers. School B, where the B class belonged, is located in a larger town and has 350 pupils (in 1th -10thgrade) and 30 teachers. School C is located in a small town and has 170 pupils in 1th -7th grade and 24 teachers.

[viii] Note that the presentation of classes ranging from A-C is random and has nothing to do with the quality of their work with digital competence. Measuring quality is not the scope of this article.

[ix] http://www.itu.no/no/Om_ITU/English/

[x] Since the material consists of 5th and 7th graders their Norwegian expressions have been translated into informal English. For this reason, it has sometimes been impossible to find corresponding words. The group interviews are not quoted with names since it was difficult to identify from the tape who did the talking.

[xi] http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/mspaint_overview.mspx?mfr=true